

## REMARKS

Claims 38, 39, 95, 97-99, 101, 103, 104, 109-112, and 115-120 are pending. No new claims have been added and no claims have been canceled. Claims 95, 97, 99, 104, 111, 112, 116, 117, 119, and 120 have been amended to more clearly define the claimed invention. As discussed below, the claims as amended are supported by the application as filed and, do not constitute new matter.

### Objection to the Claims

The Examiner objected to claims 104, 111, and 112, requesting change or addition of “the” or “said.” Applicants respectfully submit that the claims are not objectionable as written. Either article (“the” or “said”) is acceptable in referring to a previously recited term or element. Accordingly, Applicants request withdrawal of the objections.

### Rejections under 35 U.S.C. § 112, first paragraph

The Examiner rejected claims 38, 39, 95, 97-99, 101, 103, 104, 109-112, and 115-120, under 35 U.S.C. § 112, first paragraph as allegedly failing to comply with the written description requirement. Specifically, the Examiner asserted that the recitation of “the mass of each compound is known” and claims 111 and 112 is not supported by the specification. Further, the Examiner asserted that the specification fails to describe “using the ion abundance data collected in step (e) to calculate the relative concentrations of the first complex and the at least one test compound-nucleic acid target complex,” as recited in claims 116 and 119. Applicants respectfully traverse.

According to the M.P.E.P., “the fundamental factual inquiry [underlying the written description requirement] is whether the specification conveys with reasonable clarity to those skilled in the art that, as of the filing date sought, applicant was in possession of the invention as now claimed.<sup>1</sup> The M.P.E.P. further states that the “subject matter of the claim need not be described literally (i.e., using the same terms or *in haec verba*) in order for the disclosure to satisfy the description requirement.”<sup>2</sup> And to make a determination regarding the adequacy of

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<sup>1</sup> M.P.E.P. § 2163.02 (quoting *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555 (Fed. Cir. 1991)).

<sup>2</sup> *Id.*

the disclosure, the entire specification must be considered.<sup>3</sup> When the instant specification *as a whole* is considered, it becomes apparent that applicants were in possession of the claimed methods.

The present claims are supported throughout the specification as filed. For example, the specification notes that:

As a result, it becomes possible to determine the exact mass shift (with respect to the target signal) of peaks which represent complexes between the target and ligands bound to it. Given the exact mass shifts, the exact **molecular weights** (usually to several decimal points of accuracy) be used to **determine the identity of the ligands** which have actually bound to the target.

Specification at page 68, lines 23-28 (emphasis added).

Such control facilitates the identification of ligand having high binding affinities for the target biomolecules. Thus, automation permits the automatic calculation of the mass of the binding ligand or ligands, especially when the mass of the target is used for internal calibration purposes. **From the precise mass of the binding ligands, their identity may be determined** in an automated way.

Specification at page 70, lines 7-19 (emphasis added). See also, at least Examples 3, 5, 6, 11, 13, and 21 (describing experiments “performed in order to detect direct complex formation between a library containing five aminoglycosides” of known molecular weight).

Thus, one of skill in the art would readily understand that inventors were in possession of methods comprising identifying binding ligands by their molecular weights. It is implicit that the molecular weights of such test ligands are known. Moreover, examples of such methods where the molecular weights of test ligands were known may be found in the working examples of the instant specification. See e.g., Example 21 at pages 63-65. To remove any ambiguity, the term “test compound” has been replaced with “test ligand” to more closely track the language of the specification.

The Examiner also asserted that “nowhere in the specification describes ‘using the ion abundance data collected in step (c) to calculate the relative concentrations of the first complex and the at least one test compound-nucleic acid complex’ as recited in newly added claims 116 and 119.” Office Action at pages 3-4. Applicants respectfully submit that this concept is also sufficiently described, for example at page 31, lines 10 to page 32, line 12.

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<sup>3</sup> M.P.E.P. § 2163, II, A, (2).

Accordingly, Applicants respectfully request that the rejection of claims 38, 39, 95, 97-99, 101, 103, 104, 109-112, and 115-120, under 35 U.S.C. § 112, first paragraph be withdrawn.

Rejections under 35 U.S.C. § 112, second paragraph

The Examiner rejected claims 99, 101, 104, 110, 112, and 118-120 under 35 U.S.C. § 112, second paragraph as allegedly indefinite. The Examiner asserted that “it is unclear why the identity of the test compound bound in the at least one test compound-nucleic acid target complex can be determined by calculating the difference between the mass of the first complex and the at least one test compound-nucleic acid target complex as recited in step (h).” Office Action at page 5. Applicants have amended claim 112 to make explicit that the molecular weight of the standard binding compound is known. Thus, the difference in mass of the first complex and the second complex is the same as the difference in mass between the known standard binding compound and the test ligand bound in the second complex. From this shift in mass, one can calculate the mass of the test ligand bound in the second complex. As above, this amendment is supported throughout the specification including Example 21.

Accordingly, Applicants respectfully request that the rejection of claims 99, 101, 104, 110, 112, and 118-120 under 35 U.S.C. § 112, second paragraph be withdrawn.

**CONCLUSION**

Applicants believe that all outstanding issues in this case have been resolved and that the present claims are in condition for allowance. Nevertheless, if any undeveloped issues remain or if any issues require clarification, the Examiner is invited to contact the undersigned at the telephone number provided below in order to expedite the resolution of such issues.

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**FEES**

Applicant herewith petitions for a three- month extension of time and submits the required extension of time fee. It is believed that no additional fees are due at this time. However, if an additional fee is due, the Commissioner is herby authorized to charge the Deposit Account 50-0252 referencing case number MSIBIS-0002USC2.

Respectfully submitted,

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